

What is claimed is:

1. A method for layered structure breaking strength estimation characterized by inserting an edge of a cutting blade into an upper layer of the structure, moving the cutting blade substantially in parallel with an interface between the upper layer and a lower layer of the structure while a depth of the cutting blade being controlled to such a depth slightly upper than the interface that a cutting piece remains on the cutting blade, and measuring a force exerted on the cutting blade substantially in parallel with the interface.

2. A method for layered structure breaking strength estimation characterized by inserting an edge of a cutting blade into an upper layer of the structure, moving the cutting blade substantially in parallel with an interface between the upper layer and a lower layer of the structure, measuring a force exerted on the cutting blade substantially in parallel with the interface, moving the cutting blade substantially in parallel with the interface while a depth of the cutting blade being controlled to such a depth where

the force alternates between increase and decrease.

3. A method for layered structure breaking strength estimation according to claim 1 or 2, wherein the force exerted on the cutting blade substantially in parallel with the interface, a force exerted on the cutting blade substantially vertical to the interface, and the depth of the cutting blade are expressed in the form of a graphic profile of change with time.

4. A method for layered structure breaking strength estimation according to claims 1 or 2, wherein an unit of displacement of the cutting blade for determining the depth of the edge of the cutting blade is not greater than 2 micro meter.

5. An apparatus for layered structure breaking strength estimation comprising a means for inserting an edge of a cutting blade into an upper layer of the structure, a means for moving the cutting blade substantially in parallel with an interface between the upper layer and a lower layer of the structure while a depth of the cutting blade being controlled to such a depth slightly upper than the interface

that a cutting piece stays on the cutting blade, and a means for measuring a force exerted on the cutting blade substantially in parallel with the interface.

6. An apparatus for layered structure breaking strength estimation comprising a means for inserting an edge of a cutting blade into an upper layer of the structure, a means for moving the cutting blade substantially in parallel with an interface between the upper layer and a lower layer of the structure, a means for measuring a force exerted on the cutting blade substantially in parallel with the interface, and a means for controlling a depth of the cutting blade to such a depth where the force alternates between increase and decrease while the cutting blade is moved substantially in parallel with the interface.

7. An apparatus for layered structure breaking strength estimation according to claim 5 or 6, more comprising a means for expressing the force exerted on the cutting blade substantially in parallel with the interface, a force exerted on the cutting blade substantially vertical to the interface and the depth of the cutting blade in the form of a graphic

profile of change with time.

8. An apparatus for layered structure breaking strength estimation according to claims 5 or 6, wherein an unit of displacement of the cutting blade for determining the depth of the edge of the cutting blade is not greater than 2 micro meter.